

Permit Attachment 2 – Waste Analysis Plan

ADVANCED ENVIRONMENTAL TECHNOLOGIES, INC

Waste Analysis Plan

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Prepared: 4/21/08

Any changes to this plan will require a permit modification due to this plan being submitted as part of the RCRA Permit Application, Section C.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Responsible signature per 40 CFR 270.11(a)(1)

RESPONSIBILITY: The company, AET and employees, are responsible for all facets of this Waste Analysis Plan and have authority to make necessary decisions to ensure success of the process. Written detailed instructions covering each of the basic elements in this process have been developed. AET authorizes any employee to halt any operation of the company where there is danger of serious personal injury or failure of the plan.

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1 DESCRIPTION OF WASTES

AET is only authorized to accept wastes that exhibit the characteristic of explosive reactivity as found at 40 CFR 262.23(a)(6-8)¹. In addition to being explosive, the wastes AET is authorized to accept may also exhibit other hazardous waste characteristics or be a mixture of explosive waste and one or more listed hazardous wastes such that the resulting mixture exhibits the characteristic of explosive reactivity as found at 40 CFR 262.23(a)(6-8).

Military Munitions: Military Munitions are manufactured items which conform to military specifications and are typically in their original packaging for which the Department of Defense has determined disposal is necessary. Examples include but are not limited to bombs, artillery shells, rockets, grenades, mines and gun cartridges.

Off-Specification Military Munitions: Off-Specification Military Munitions are those military munitions which no longer meet military specifications or are manufacturing rejects. Examples include but are not limited to faulty lots, expired lots, mixed lots, manufacturing rejects and off-specification munitions.

Military Mmunition Components: Military munition components are manufactured items used in the production of military munitions which conform to military specifications and are typically in their original packaging for which the Department of Defense has determined disposal is necessary. Examples include but are not limited to fuzes, detonators, charges, warheads, and primers.

Off-Specification Military Mmunition Components: Off-Specification Military Mmunition Components are those military munition components which no longer meet military specifications or are manufacturing rejects. Examples include but are not limited to demilled components, faulty lots, expired lots, mixed lots, manufacturing rejects and off-specification components.

Bulk Military Explosives and Propellants: Bulk Military Explosives and Propellants are manufactured items which conform to military specifications and are typically in their original packaging for which the Department of Defense has determined disposal is necessary. Examples include but are not limited to bulk high explosives (both primary and secondary), bulk propellants and initiating explosives.

Off-Specification Bulk Military Explosives and Propellants: Off-Specification Bulk Military Explosives and Propellants are those military explosives and propellants which no longer meet military specifications or are manufacturing rejects. Examples include but are not limited to manufacturing rejects, manufacturing waste, faulty lots, expired lots, mixed lots, loss of stabilizer, sump scrap, collected dust and floor sweepings.

¹ 40 CFR 262.23(a):

(6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(8) It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88.

Commercial Items and Components: Commercial Items and Components are manufactured items which conform to original specifications by the manufacturer and are typically in their original packaging for which the generator has determined disposal is necessary. Examples include detonators, primers, gun cartridges and air bag initiators.

Off-Specification Commercial Items and Components: Off-Specification Commercial Items and Components are those items and components which no longer meet military specifications or are manufacturing rejects. Examples include but are not limited to disassembled components, faulty lots, expired lots, mixed lots, manufacturing rejects and off-specification components.

Commercial Explosives and Propellants: Commercial Explosives and Propellants (including bulk explosives and propellants) are manufactured items which conform to original specifications by the manufacturer and are typically in their original packaging for which the generator has determined disposal is necessary. Examples include dynamites, explosive charges and propellants.

Off-Specification Commercial Explosives and Propellants: Off-Specification Commercial Explosives and Propellants (including bulk explosives and propellants) are those commercial explosives and propellants which no longer meet the original specifications or are manufacturing rejects. Examples include but are not limited to manufacturing rejects, manufacturing waste, faulty lots, expired lots, mixed lots, loss of stabilizer, sump scrap, collected dust and floor sweepings.

Listed Commercial Chemical Products: Commercial Chemical Products (including off-specification commercial chemical products) are products listed in 40 CFR Part 261.33. These include discarded commercial chemical products, off-specification products, container residues, spill residues and mixtures of one or more commercial chemical products and other solid wastes.

Listed Hazardous Wastes from Specific Sources: Listed Hazardous Wastes from Specific Sources are wastes listed in 40 CFR 261.32. These include container residues, spill residues and mixtures with other solid wastes.

Other Explosive Wastes: Other Explosive Wastes include all other wastes which may exhibit the hazardous waste characteristic of explosive reactivity.

AET is authorized to treat by thermal treatment technology a variety of explosive wastes. However, AET must restrict the wastes it accepts, as typically shown in table 1, for treatment until the equivalency of the treatment process is approved by EPA pursuant to 40 CFR 268.42(b). Until such time as AET demonstrates the equivalency of its process to the satisfaction of EPA, commercial chemical product wastes will not be accepted by AET for treatment:

TABLE 1 (40 CFR 261, Appendix VIII, Hazardous Constituents)

Waste Code	Nomenclature	Equivalency	Ignition temp
P009	Ammonium Picrate	DEACT	M.P. not measurable due to decomposition
P068	Methyl Hydrazine	DEACT	Flammable liquid – explodes @ elevated temp.
P081	Nitroglycerine	DEACT	Explosive Point = 500°F
P105	Sodium Azide	DEACT	Decomposes @ 572°F
P112	Tetranitromethane	DEACT	
U133	Hydrazine	DEACT	Flash Point. =126°F
U186	N,N-Diethylhydrazine	DEACT	
U098	1,1-Dimethylhydrazine	DEACT	Flammable Liquid

U099	1,2- Dimethylhydrazine	DEACT	Flammable Liquid
U109	1,2-Diphenylhydrazine	DEACT	

AET is not authorized to accept hazardous wastes that are or contain free liquids. Powders may be wetted with oil or water to desensitize for safety purposes.

2 PRE-QUALIFICATION

Pre-qualification shall be used as the mechanism by which AET will determine to reject or to accept a particular waste from a particular generator prior to its shipment to AET. The acceptability of a particular hazardous waste from a particular generator will be based upon AET's determination that a particular waste from a particular generator can be stored and treated within the facility permit conditions and operating capabilities prior to shipment of that particular waste to the facility.

Explosive waste pre-qualification is required to assure that AET is accepting only explosive reactivity in waste streams. Until such time as AET demonstrates the equivalency of its process, the pre-qualification process will be the primary means for AET to restrict acceptance of the wastes identified in Table 1. In addition, AET may restrict the acceptance of EPA Waste Codes K045, K046, and K047 because of the significant impact management of those wastes will have on the residues generated as the result of the management of those wastes. The pre-qualification process will also be the primary means for AET to restrict acceptance of K045, K046 and K047. (See discussion later in this document regarding the characterization of residues) The following subsections will describe waste pre-qualification, inspection, acceptance (or rejection) upon arrival of shipments of waste to AET, explosive waste characterization and information to ensure safe storage, handling and treatment of explosive wastes, explosive waste constituent characterization and documentation for compliance with waste treatment feed rate limits, characterization and documentation of treatment residues to determine remaining hazardous waste characteristics or listings, and treatment residue analysis to comply with land disposal restrictions.

AET may only store or treat hazardous waste that meets the definition of explosive reactive wastes in 40 CFR 262.23(a)(6-8). AET will not accept shipments of hazardous waste that is not explosive or hazardous waste which cannot be safely stored and treated by AET. AET will review all available data concerning the waste stream to ensure that the waste stream meets the definition of reactive waste prior to AET's determination to receive the waste stream. This review may consist of assurance of chemical components that comprise a violent reaction when a source of energy is applied, or may be analytical data from a chemical test demonstrating explosive reactivity (D003). Any materials defined by the military as explosive are considered D003.

Information from pre-qualification will be used in conjunction with other information obtained or developed by AET to provide the detailed chemical data and/or physical analysis of the waste required by 40 CFR 264.13(a) before storage and treatment of the waste by AET facility. The information collected for each waste from each generator for pre-qualification may consist of a detailed chemical and physical analysis of a representative sample of waste, a description of the waste generating process, a chemical and physical description of the waste, all analytical procedures and results, EPA waste codes and all required LDR information. For each waste stream that is a candidate for storage and/or treatment by AET, the following procedures shall be followed:

2.1 Waste Profile Form

Each generator shall complete, sign and submit to AET the Waste Profile Form, Figure WAP-4, for each waste stream accepted from same generator for storage and/or treatment.

- Authorized AET personnel shall review the Waste Profile Form and verify the information therein for each waste stream accepted from same generator for storage and/or treatment.
- Chemical fingerprint analysis will be obtained for certain waste streams as described in Section 2.2.
- Authorized AET personnel may attempt to obtain any missing information necessary for the safe handling, storage and/or treatment of a particular hazardous waste from a particular generator by requiring the generator to submit a representative sample for analysis by AET.
- Authorized AET personnel shall reject a particular hazardous waste from a particular generator if sufficient information can not be obtained to determine that a particular hazardous waste from a particular generator can be handled, stored and/or treated within the facility permit conditions and operating capabilities.
- If authorized AET personnel determine that a particular hazardous waste from a particular generator can be stored and/or treated within the facility permit conditions and operating capabilities, AET will notify the generator of the wastes acceptance for storage and/or treatment by AET. The notification will include certification that AET has the appropriate permit and authorization of the particular waste the particular generator is offering.
- AET shall require submittal of a new pre-qualification from each generator for each waste whenever the hazardous waste generation process changes for such waste.
- AET shall require submittal of a new pre-qualification from each generator for each waste whenever a year has elapsed between initial waste qualifications.
- AET shall require submittal of a new pre-qualification from each generator for each waste whenever the hazardous waste generation process changes for such waste.
- AET shall require submittal of a new pre-qualification for each waste from each generator that is rejected upon arrival of the waste at AET.

2.2 Fingerprint Analysis

As part of the pre-qualification process, AET will prepare a fingerprint analysis of each waste from each generator accepted for storage and treatment. The fingerprint analysis will be used by AET to determine if the waste received by AET conforms to that which was pre-qualified by AET. Fingerprint analysis will be prepared from available data for the different waste categories as follows:

Military Munitions and Military Munition Components:

- Specific pre-qualification approval waste number
- Common name and general description
- Color - Visual Comparison

- Odor - Subjective comparison
- Picture or detail drawing of the item
- Proper DOT shipping name, DOT shipping code and DOT hazard class
- Military name
- DODIC#, MIDAS# and/or other nomenclature
- Proper military packaging and shipping containers

Off-Specification Military Munitions and Military Munition Components:

- Specific pre-qualification approval waste number
- Common name and general description
- Color - Visual Comparison
- Odor - Subjective comparison
- Picture or detail drawing of item
- Proper DOT shipping name, DOT shipping code and DOT hazard class
- Military name
- DODIC#, MIDAS# and/or other nomenclature
- Proper packaging and shipping containers
- Reason for off-specification

Bulk Military Explosives and Propellants:

- Specific pre-qualification approval waste number
- Common name and general description
- Color - Visual Comparison
- Odor - Subjective comparison
- Texture (if appropriate) - Visual Comparison
- Physical appearance – Visual comparison
- Proper DOT shipping name, DOT shipping code and DOT hazard class
- Military name
- DODIC#, MIDAS# and/or other nomenclature
- Proper military packaging and shipping containers

Off-Specification Bulk Military Explosives and Propellants:

- Specific pre-qualification approval waste number
- Common name and general description
- Color - Visual Comparison
- Odor - Subjective comparison
- Texture (if appropriate) - Visual Comparison
- Physical appearance – Visual comparison
- Proper DOT shipping name, DOT shipping code and DOT hazard class
- Military name
- DODIC#, MIDAS# and/or other nomenclature
- Proper packaging and shipping containers
- Chemical Fingerprint Analysis (as described below)
- Reason for off-specification

Commercial Items and Components and Off-Specification Commercial Items and Components:

- Specific pre-qualification approval waste number
- Common name and general description
- Color - Visual Comparison
- Odor - Subjective comparison
- Picture or detail drawing of item
- Proper DOT shipping name, DOT shipping code and DOT hazard class
- Commercial name
- Proper packaging and shipping containers
- Reason for off specification

Commercial Explosives and Propellants:

- Specific pre-qualification approval waste number
- Common name and general description
- Color - Visual Comparison
- Odor - Subjective comparison
- Texture (if appropriate) - Visual Comparison
- Physical appearance – Visual comparison
- Proper DOT shipping name, DOT shipping code and DOT hazard class
- Commercial name
- Proper packaging and shipping containers

Off-Specification Commercial Explosives and Propellants:

- Specific pre-qualification approval waste number
- Common name and general description
- Color - Visual Comparison
- Odor - Subjective comparison
- Texture (if appropriate) - Visual Comparison
- Physical appearance – Visual comparison
- Proper DOT shipping name, DOT shipping code and DOT hazard class
- Commercial name
- Proper packaging and shipping containers
- Chemical Fingerprint Analysis (as described in section 2.3)

Listed Commercial Chemical Products:

- Specific pre-qualification approval waste number
- Common name and general description
- Color - Visual Comparison
- Odor - Subjective comparison
- Texture (if appropriate) - Visual Comparison
- Physical appearance – Visual comparison
- Proper DOT shipping name, DOT shipping code and DOT hazard class
- Commercial name

- EPA Waste Description and EPA Waste Code
- Proper packaging and shipping containers
- Chemical Fingerprint Analysis (as described in section 2.3)

Listed Hazardous Wastes from Specific Sources:

- Specific pre-qualification approval waste number
- Common name and general description
- Color - Visual Comparison
- Odor - Subjective comparison
- Texture (if appropriate) - Visual Comparison
- Physical appearance – Visual comparison
- Proper DOT shipping name, DOT shipping code and DOT hazard class
- EPA Waste Description and EPA Waste Code
- Proper packaging and shipping containers
- Chemical Fingerprint Analysis (as described in section 2.3)

Other Explosive Wastes:

- Specific pre-qualification approval waste number
- Common name and general description
- Color - Visual Comparison
- Odor - Subjective comparison
- Texture (if appropriate) - Visual Comparison
- Physical appearance – Visual comparison
- Proper DOT shipping name, DOT shipping code and DOT hazard class
- Commercial name
- EPA Waste Description and EPA Waste Code
- Proper packaging and shipping containers
- Chemical Fingerprint Analysis (as described in section 2.3)

2.3 Chemical Fingerprint Analysis

Due to the variable processes that will generate certain waste streams, it will be necessary to include chemical analysis as part of the pre-qualification procedures. For these wastes, the generator will be required to submit a sample for chemical analysis by AET. From the results of chemical analysis, AET will prepare a chemical fingerprint for comparison to an analysis of the waste shipment actually received from the generator by AET for storage and treatment. If the chemical analysis of the waste shipment does not match the fingerprint analysis, AET will require the generator to repeat pre-qualification of the waste stream if AET intends to accept future shipments of that waste from that generator. AET will determine if the waste shipment which does not conform to the fingerprint analysis can be safely stored and treated by AET. If not, the waste will be returned to the generator or shipped off-site within 30 days to another hazardous waste treatment, storage and disposal facility that can safely manage the waste.

See Table 2 for a matrix of the required chemical analysis necessary to prepare the chemical fingerprint. AET shall obtain chemical analysis of wastes whenever generator knowledge is insufficient to provide the information necessary to comply with feed rate limits and emission rate limits. AET shall obtain chemical analysis of wastes as necessary for pre-qualification and of waste received to comply with the feed rate and emission rate limits imposed by the permit.

TABLE 2

Waste Description	Generator Knowledge	Volatile Organics	Semi-Volatile Organics	Explosive Constituents	Metals
<i>Off Spec Bulk Explosive</i>					
Sump Scrap	X	X	X	*	X
Dust Collector Waste	X	X	X	*	X
Floor Sweepings	X	X	X	*	X
Manufacturing Waste	X	X	X	*	X
Mixed Lots	X	*	*	*	*
Expired Lots	X	*	*	*	*
Manufacturing Reject	X	*	*	*	*
Faulty Lots	X	*	*	*	*
<i>Off Spec Bulk Propellant</i>					
Sump Scrap	X	X	X	*	X
Dust Collector Waste	X	X	X	*	X
Floor Sweepings	X	X	X	*	X
Manufacturing Waste	X	X	X	*	X
Mixed Lots	X	*	*	*	*
Expired Lots	X	*	*	*	*
Faulty Stabilizer	X	*	*	*	*
Manufacturing Reject	X	*	*	*	*
Faulty Lots	X	*	*	*	*
<i>Off Spec Commercial Waste</i>					
Sump Scrap	X	X	X	*	X
Dust Collector Waste	X	X	X	*	X
Floor Sweepings	X	X	X	*	X
Manufacturing Waste	X	X	X	*	X
Mixed Lots	X	*	*	*	*
Expired Lots	X	*	*	*	*
Faulty Stabilizer	X	*	*	*	*

Waste Description	Generator Knowledge	Volatile Organics	Semi-Volatile Organics	Explosive Constituents	Metals
Manufacturing Reject	X	*	*	*	*
Faulty Lots	X	*	*	*	*
<i>Off Spec Commercial Products</i>					
Mixtures	X	X	X	*	X
Spill Cleanup and Residues	X	X	X	*	X
<i>Listed Hazardous Wastes</i>	X	X	X	*	X
<i>Other Explosive Wastes</i>	X	X	X	*	X

LEGEND

X = Analysis Required

* = Analysis May Be Required

3 WASTE TESTING

For a waste stream to be considered by the facility for deactivation, the generator is required to complete a Waste Profile Form (Figure WAP-4), which AET will provide to the generator, along with instructions for its completion. The waste generator is expected to provide a complete and accurate Waste Characterization Form to AET. The generator's submission of a properly completed Waste Characterization Form is the first step in AET's determination if analytical testing is necessary. However, generator knowledge alone may not be adequate to provide all the chemical information needed by AET in order to safely treat the waste and/or to prepare the fingerprint analysis. Therefore, chemical analysis of certain waste streams from each generator will be necessary.

3.1 Parameters, Rational and Analytical Methods

The composition of hazardous waste streams is not carefully controlled by the generator. By their very nature, they may have a variety of chemical constituents at varying concentrations that cannot be determined by generator knowledge. In addition, because wastes are not a valuable commodity, they may be mixed with other wastes or contaminated with other constituents that are not part of the manufacturing process. Therefore, AET will conduct chemical analysis on certain waste streams in order to quantify the concentration of chemical constituents in order to comply with the permit. AET will presume that generator knowledge is insufficient to quantitatively determine chemical constituent concentrations in Sump Scrap, Dust Collector Materials, Floor Sweepings, Manufacturing Waste, Waste Mixtures, Spill Cleanup and Residues. Other hazardous wastes which may be accepted by AET may also require quantification of chemical constituent concentrations after reviewing pre-qualification information, inspection of a sample of the waste, inspection of the shipment upon its arrival at AET, inspection during treatment activities and/or other information which becomes known to AET.

TABLE 3

Parameter	Rational	Analytical Method ¹
Volatile Organics (VOC)	VOC constituent analysis is necessary to comply with emission limits in the permit.	8260B, Other Applicable 8000 Series Method
Semi-Volatile Organics (SVOC)	SVOC constituent analysis is necessary to comply with emission limits in the permit.	8270C, Other Applicable 8000 Series Method
Explosive Constituents	Explosive constituent analysis is necessary to comply with feed rate limits and emission limits in the permit.	8330, Other Applicable 8000 Series Method
Metal Constituents	Metal constituent analysis is necessary to comply with feed rate limits and emission limits in the permit.	6010, Other Applicable 7000 Series Method

¹ EPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods

3.2 Analysis Request Form

AET will prepare an analysis request form, Figure WAP-5, whenever chemical analysis is conducted. The following information will be included in the analysis request:

- Sample Number and Generator's Name and Address
- Waste Profile Form Number
- Waste Name and Physical State
- Date and Time of Sample Collection
- Analysis Requested and Results
- Reported By
- Comments

Waste samples will be stored until the waste stream from which it was collected has been treated. After treatment, the sample will be managed by treatment with other compatible waste. Samples of wastes not accepted by AET will be returned to the generator.

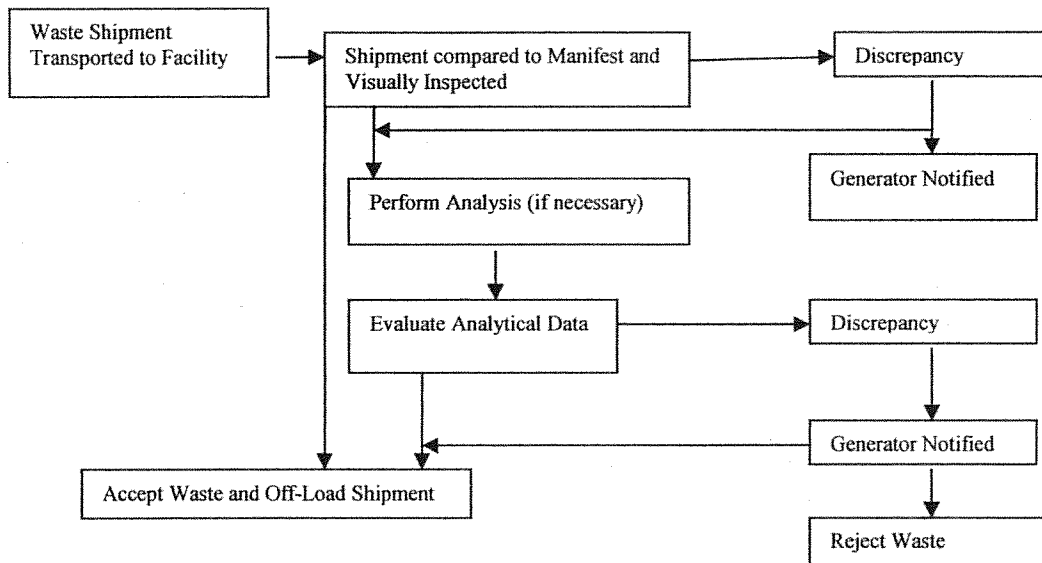
3.3 Documentation of Analysis

Analytical data, any chain-of-custody records, and other waste stream documentation will be included in the facility operating record. The data will be maintained for a minimum of three years from the date of treatment. AET anticipates computerizing its data management activities, which may result in modifying the format of the record keeping forms. However, computerizing the data management activities will not modify the actual types of data compiled for each waste stream's initial acceptance for deactivation, fingerprint analysis prior to actual deactivation and other records.

4 WASTE SHIPMENT ACCEPTANCE

Each hazardous waste shipment arriving at the facility for treatment must be accompanied by and match the required documentation. AET has instituted specific procedures for waste shipment acceptance. See Figure WAP-1 for an overview of the process.

Figure WAP-1 : WASTE INSPECTION / ACCEPTANCE FLOW CHART



4.1 Onsite Waste Shipments

The AET facility is located in space leased from Iowa Army Ammunition Plant (IAAAP). Therefore, waste shipments from IAAAP do not require a Hazardous Waste Manifest but do require proper custodial documentation to document the waste transfer retained by both IAAAP and AET. Each hazardous waste shipment arriving at the facility for treatment must be accompanied by and match the required documentation.

The following activities will occur prior to acceptance of the onsite waste shipment by AET:

- Waste transfers (onsite shipments) from IAAAP will be inspected at Building 600-84 facility prior to unloading.
- The number of containers on the truck will be compared to the number listed on the shipping papers.
- The nomenclature on the containers will be compared to the shipping papers.
- All containers on the truck will be inspected as unloaded for closed containers.
- Any signs of leakage on the truck will be immediately noted and cleaned up or the truck will be sent to IAAAP operator for decontamination.
- The wastes in the shipment will be compared to the fingerprint analysis to determine if the material in the shipment meets the pre-qualified material. If necessary at this point, samples will be taken for analysis and further evaluation. Waste shipments awaiting chemical analysis will be quarantined in AET hazardous waste storage units until a final acceptance determination is made.

- Any waste discrepancies not resolved within 24 hours will require that the waste be rejected.
- All waste transfer and acceptance records will be included in the facility operating record.

4.2 Off-site Waste Shipments

The following activities will occur prior to acceptance of the off-site waste shipment by AET:

- The transporter will present the manifest to the facility representative.
- The facility representative will compare the waste shipment with the manifest.
- If necessary, a facility representative will collect a representative sample of the incoming waste for fingerprint analysis.
- The results of the fingerprint analysis and the visual waste shipment comparison with the manifest will be reviewed to assure that the waste stream is acceptable for treatment.
- Discrepancies identified during the manifest review, the visual inspection and/or the fingerprint analysis will be grounds for rejection of the shipment and its return to the generator, unless the discrepancy can be remedied via contact with the generator.
- If, following acceptance of the waste, a significant discrepancy is identified, and can not be resolved with the generator, a Manifest Discrepancy Report will be filed with US EPA.
- The waste will be transferred to a separate area and held until the discrepancy has been resolved with both the generator and the US EPA.
- The transporter will be given a copy of the signed manifest following acceptance and unloading of each approved load.
- The generator's copy of the signed manifest will be sent via U.S. mail to the generator within 30 days of acceptance of the waste shipment.
- For incoming waste shipments to the AET facility, every truck and every container will be inspected and compared to the manifest to assure that the shipment contains exactly what is intended.
- Visual inspection will be conducted of containers to verify the contents as listed on the manifest. For waste shipments where physical or chemical samples are required, 10 percent of the shipment will be sampled. Thus, for 100 waste containers 10 random samples would be taken.

4.3 Un-Manifested Waste Reports

AET will not accept shipments of hazardous waste without a hazardous waste manifest or, in the case of onsite transfers, appropriate custodial documentation. If a waste shipment arrives at AET without a hazardous waste manifest or, in the case of onsite transfers, appropriate custodial documentation, an Un-manifested Waste Report will be prepared and transmitted to Region 7 US EPA within 15 days of receiving waste. EPA Form 8700-13B will be used, and will include the following information:

- Name, address and EPA ID Number of the facility
- Date the waste was received
- Name, address and EPA ID Number of the transporter of the waste and of the waste generator

- Quantity and description of the un-manifested waste accepted by the facility
- Description of the proposed waste treatment method
- Summary explanation, if known, regarding why the waste was not manifested
- A certification signed by the owner or operator or his authorized representative

4.4 Manifest Discrepancy Reports

Manifest discrepancies may be identified as a result of AET's waste inspection, verification, and characterization procedures. Per 40 CFR § 264.72(b), AET will attempt to reconcile the discrepancy with the generator. Should the discrepancy not be resolved within 15 days after receiving the waste, a Manifest Discrepancy Report will be prepared and submitted to Region 7, US EPA, if a significant discrepancy between the manifest and the waste shipment is discovered following the waste's acceptance. Waste shipments will be quarantined in AET hazardous waste storage units until the discrepancies can be resolved. If the discrepancy cannot be resolved, the waste will be returned to the generator. Significant discrepancies are defined as:

- Variations greater than 10 percent in weight for bulk waste.
- Variations greater than 1 percent in piece count for batch waste.
- Discrepancies in waste type discovered by waste analysis or inspection.

The appropriate agency will be notified via a letter if the discrepancy has not been resolved within fifteen (15) days of receipt. The letter will contain the following information:

- Name, address and EPA ID Number of the facility.
- Date the waste was received.
- Name, address and EPA ID Number of the waste transporter and generator.
- Summary of the discrepancy and the discrepancy reconciliation activities.
- Description of the proposed waste treatment method.
- Copy of the manifest containing the discrepancy.
- A certification, signed by the owner or operator or his authorized representative.

5 AET GENERATED WASTE

AET will generate wastes as the result of storage and treatment of explosive wastes. These include, but are not limited to, spill cleanup materials, ash and other residual materials from the treatment chamber, dust and particles from the cyclone separator, baghouse dust, spent carbon, filters from the dust control hood used for repackaging waste for treatment, wash water from facility cleaning and other wastes. These wastes may exhibit a hazardous waste characteristic found at 40 CFR Part 261, Subpart C and/or be a listed waste found at 40 CFR Part 261, Subpart D. AET is responsible for determining if a waste generated as the result of facility operation is a hazardous waste.

Because of the varied nature of AET's operations, AET may determine to manage all such wastes as hazardous wastes. Alternatively, AET may test the waste residuals to determine if they exhibit a hazardous waste characteristic found at 40 CFR Part 261, Subpart C. If AET determines that a certain quantity of waste does not exhibit a hazardous waste characteristic in 40 CFR Part 261, Subpart C, that waste will be managed as a non-hazardous waste unless the waste was derived from the treatment of listed hazardous waste or mixed with listed hazardous waste. See Table 4 for those AET permitted hazardous wastes from which all residuals derived from their treatment are also listed waste or mixtures of listed waste and solid waste that are also listed waste

regardless of whether or not the resulting residual or waste mixture continue to exhibit a hazardous waste characteristic in 40 CFR Part 261, Subpart C. However, once AET treats one of the listed wastes in Table 4 all waste residuals including ash, cyclone separator and baghouse dust and particles are listed waste and will be managed as hazardous wastes. See further discussion below regarding listed hazardous wastes.

TABLE 4 - AET Permitted Listed Waste Codes

K044	Wastewater treatment sludges from manufacturing and processing of explosives
K045	Spent carbon from the treatment of wastewater containing explosives
K046	Wastewater treatment sludges from the manufacture, formulation, and loading of lead-based initiating compounds
K047	Pink/red water from TNT operations

5.1 AET Generated Waste Analysis

40 CFR Part 261, Subpart C, Hazardous Waste Characteristics

AET will analyze a representative sample of the waste to determine if the waste exhibits a hazardous waste characteristic found at 40 CFR Part 261, Subpart C, using the test methods and/or methodology therein.

40 CFR Part 261, Subpart D, Listed Hazardous Waste

Certain of the wastes permitted to be managed by AET are listed in 40 CFR Part 261, Subpart D, or may be a mixture of a waste listed in 40 CFR Part 261, Subpart D and other materials and/or waste. See EPA waste codes beginning with an F, or K in 40 CFR 261, Appendix VII. Table 4 listed the AET permitted wastes. Any waste resulting from the management and treatment, of these wastes will also be a listed hazardous waste. All wastes generated subsequent from the initial management and treatment of a listed waste are listed waste and shall have all of the EPA listed waste codes for each different listed waste that has been treated to that point in time.

For example, AET has not previously treated any listed waste and now treats spent carbon, EPA Listed Waste K045. The waste from the treatment of K045 and all subsequent wastes generated will be the listed waste, and will have the EPA waste code K045.

For example, AET has previously treated K045 and now treats K046. The waste from the treatment of K046 and all subsequent wastes generated will be the listed waste K045 and K046 and will show both EPA waste codes. This process continues with each additional listed waste found at 40 CFR Part 261, Appendix VII.

In certain cases, the listed waste found at 40 CFR Part 261, Appendix VII, is listed solely because it exhibits a hazardous waste characteristic. See for example K045, Spent Carbon From The Treatment of Wastewater Containing Explosives, which is listed because of the hazardous waste characteristic of reactivity. If AET determines that the waste generated from the management and/or treatment of K045 is not reactive, then the waste generated from the management and/or treatment of K045 is no longer a listed waste. However, as described above and illustrated in the examples above, the waste may continue to carry other EPA hazardous waste listings and must still be managed as a listed hazardous waste due to those other hazardous waste listings.

5.2 Special Procedures for Metal Separated from Ash and Sent for Recycling

A significant proportion of the waste to be treated by AET consists of metal casings and parts. The ash and residues generated from the treatment of this waste will predominately consist of these metal casings and parts. AET intends to separate these metal casings and parts from the other treatment residuals (i.e. ash) and recycle the metal casings and parts. Scrap metal is not a hazardous waste if it is recycled (see 40 CFR 261.6(a)(3)(ii)). In order to be exempt, it must be separated from the ash, other residues and/or wastes generated from the management and/or treatment by AET. AET intends to separate the scrap metal from the ash. However, the scrap metal cannot be accumulated speculatively (see 40 CFR 261.2(c)(4)) or it must be managed as a hazardous waste. AET will maintain in the facility operating record adequate records to demonstrate that scrap metal is not being accumulated speculatively.

AET will wash, rinse, shake or use other effective and appropriate methods to remove ash and other hazardous constituent residues from the scrap metal so that it is exempt from the definition of hazardous waste before offering it for recycling.

5.3 Special Procedures for Explosive Contaminated Trash

A significant amount of waste generated by AET consists of packaging materials. Waste may be packed with an inner liner, intermediate package, outer package, bulk wrapping and other packing materials. Any or all of this packaging could potentially become contaminated with explosives. However, all packaging other than the primary or inner packaging is not likely to be contaminated. For all packaging other than the inner or primary packaging, AET will visually inspect the packaging to determine if it is contaminated. Any contamination identified will be removed by wiping, washing, rinsing or other effective and appropriate means. Contaminated packaging will be treated by AET if it cannot be adequately decontaminated or sent off-site for proper treatment and disposal.

Packaging that is not visually contaminated or that has been adequately decontaminated is not a hazardous waste. AET intends to recycle, to the extent practicable, all packaging. AET will compact, crush and/or bail all packaging that will be recycled to prevent reuse of the packaging.

Some packaging has value if in good condition and can be sold to outside parties. AET will visually inspect each container being sold to outside parties for use, i.e., resale of metal ammunition boxes, crates, etc.

6 LAND DISPOSAL RESTRICTIONS

EPA has identified hazardous wastes that are restricted from land disposal (known as the land disposal restrictions or "LDRs") in 40 CFR Part 268. These requirements apply to generators, transporters, and treatment, storage and disposal "TSD" facilities. AET is a treatment and storage facility subject to LDR requirements. All hazardous waste received by AET will exhibit, at a minimum, the hazardous waste characteristic of explosive reactivity. Therefore, all hazardous waste received by AET will require treatment to meet the LDR of "DEACT" for explosive reactivity. The hazardous waste received by AET may also be listed in 40 CFR Part 261, Subpart D (including mixtures) and/or exhibit one or more of the other characteristics of hazardous waste in 40 CFR Part 261, Subpart C.

AET will not land dispose of hazardous waste or non-hazardous waste on-site. However, because off-site management of treatment residues and other hazardous wastes generated from AET's management of hazardous waste may include land disposal or be used in products which may be placed upon the land, LDR's are applicable to the treatment residues and other hazardous wastes generated by AET. This section describes the generator's and AET's responsibilities in order for AET to comply with the LDR requirements.

6.1 Generator LDR Requirements

Generators of hazardous waste are responsible for providing AET with the one time notice required by 40 CFR 268.7(a). As this notice provides important information for AET's compliance with LDR's, AET will retain all one time notices in the facility operating record. AET will not attempt to summarize all the LDR requirements for generators shipping waste to AET for treatment found at 40 CFR Part 268. However, the following information must be in the one time notice in order for AET to comply with the LDR's: (An example form which AET may provide to the generator is shown as Figure WAP-2)

- Generator Information (Name, Address, EPA ID#, Contact Information)
- Manifest Number of First Shipment
- Waste Description at Point of Generation
- EPA Waste Code(s)
- Regulatory Subcategory
- Regulated Constituent, Treatability Group and Treatment Standard
- Underlying Hazardous Constituents
- Analytical Data (if available)
- Statement *"This hazardous waste may or may not be subject to the LDR treatment standards. The treatment facility must make the determination."*
- Generator Signature
- Generator Signatory Name and Title
- Date

FIGURE WAP-2 : UNIVERSAL TREATMENT STANDARDS(UTS)/UNDERLYING HAZARDOUS CONSTITUENTS

Generator:				Manifest No.:			
Waste Description:				Manifest Line No.:			
List all constituents on both pages of this document that are present in the waste stream in concentrations above levels. The regulatory levels are in total concentrations, unless noted with an asterick. (WW = wastewater, NWW = non-wastewater) If the constituent is likely to be present, but the concentration is unknown, write UKN in the box.							
		WW	NWW			WW	NWW
	A2213	0.042	1.4		Formparanate	0.056	1.4
	Acenaphthene	0.059	3.4		Heptachlor	0.0012	0.066
	Acenaphthylene	0.059	3.4		Heptachlor epoxide	0.016	0.066
	Acetone	0.28	160		Hexachlorobenzene	0.055	10
	Acetonitrile	5.6	38		Hexachlorobutadiene	0.055	5.6
	Acetophenone	0.01	9.7		Hexachlorocyclopentadiene	0.057	2.4
	2-Acetylaminofluorene	0.59	140		Hexachloroethane	0.055	30
	Acrolein	0.29	N/A		Hexachloropropylene	0.035	30
	Acrylonitrile	19	23		HxCDDs (All Hexachlorodibenzo-p-	0.000063	0.001
	Aldicarb sulfone	0.24	84		HxCDFs (All Hexachlorodibenzofurans)	0.000063	0.001
	Aldrin	0.056	0.28		Indeno (1,2,3-c,d) pyrene	0.0055	3.4
	4-Aminobiphenyl	0.021	0.07		Iodomethane	0.19	65
	Aniline	0.13	N/A		Isobutyl alcohol	5.6	170
	Anthracene	0.81	14		Isodrin	0.021	0.066
	Aramite	0.059	3.4		Isosafrole	0.056	1.4
	Barban	0.36	N/A		Kepone	0.081	2.6
	Bendiocarb	0.056	1.4		Methacrylonitrile	0.0011	0.13
	Bendiocarb phenol	0.056	1.4		Methanol	0.24	84

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Benomyl	0.056	1.4	Methapyriline	0.081	1.5
Benz (a) anthracene	0.056	1.4	Methiocarb	0.056	1.4
Benzene	0.059	3.4	Methomyl	0.028	0.14
Benzo (b) fluoranthene	0.055	6	Methoxychlor	0.25	0.18
Benzo (k) fluoroanthene	0.14	10	Methyl ethyl ketone	0.28	36
Benzo (g,h,i,) perylene	0.11	6.8	Methyl isobutyl ketone	0.14	33
Benzo (a) pyrene	0.11	6.8	Methyl methacrylate	0.14	160
Alpha-BHC	0.0055	1.8	Methyl methansulfonate	0.018	N/A
Beta-BHC	0.061	3.4	Methyl parathion	0.014	4.6
Delta-BHC	0.0001	0.07	3-Methylcholanthrene	0.0055	15
Gamma-BHC (Lindane)	0.0001	0.07	4,4-Methylene bis(2-chloroaniline	0.5	30
Bromodichloromethane	0.023	0.07	Methylene chloride	0.089	30
Bromomethane (Methyl Bromide)	0.0017	0.07	Metocarb	0.056	1.4
4-Bromohhenyl phenyl ether	0.35	15	Mexacarbate	0.056	1.4
n-Butyl alcohol	0.11	15	Molinate	0.042	1.4
Buthyl benzyl phthalate	0.055	15	Naphthalene	0.059	5.6
Butylate	5.6	2.6	2-Naphthylamine	0.52	N/A
2-sec-Butyl 4,6-dinitrophenol	0.017	28	o-Nitroaniline	0.27	14
Carbaryl	0.042	1.4	p-Nitroaniline	0.028	28
Carbenzadim	0.066	2.5	Nitorbenzene	0.068	14
Carbofuran	0.006	0.14	5-Nitro-o-toluidine	0.32	28
Carbofuran phenol	0.056	1.4	o-Nitrophenol	0.028	13
Carbon Disulfide	3.8	4.8*	p-Nitrophenol	0.12	29
Carbon Tetrachloride	0.057	6	N-Nitrosodiethylamine	0.4	28
Carbosulfan	0.028	1.4	N-Nitrosodimethylamine	0.4	2.3
Chlordane (alpha & gamma)	0.0033	0.26	N-Nitroso-di-n-butylamine	0.4	17
p-Chloroaniline	0.46	16	N-Nitrosomethylethylamine	0.4	2.3
Chlorobenzene	0.057	6	N-Nitrosomorpholine	0.4	2.3
Chlorobenzilate	0.1	N/A	N-Nitrosopiperidine	0.013	35
2-Chloro-1,3-butadiene	0.057	0.28	N-Nitrosopyrrolidine	0.013	35
Chlorodibromomethane	0.057	15	Oxamyl	0.056	0.28
Chloroethane	0.27	6	Parathion	0.014	4.6
bis-(2-Chloroethoxy)methane	0.036	7.2	Total PCBs	0.1	10
bis-(2-Chloroethyl)ether	0.033	6	Pebulate	0.042	1.4
2-Chloroethyl vinyl ether	0.062	N/A	Pentachlorobenzene	0.055	10
Chloroform	0.046	6	PeCDDs (All pentachlorodibenzo-p-	0.000063	0.001
Bis-(2-Chloroisopropyl) ether	0.055	7.2	PeCDFs (All Pentachlorodibenzofurans)	0.000035	0.001
P-Chloro-m-cresol	0.018	14	Pentachloroethane	0.055	6
Chloromethane (Methyl Chloride)	0.19	30	Pentachloronitrobenzene	0.055	4.8
2-Chloronaphthalene	0.055	5.6	Pentachlorophenol	0.089	7.4
2-Chlorophenol	0.044	5.7	Phenacetin	0.081	16
3-Chloropropylene	0.036	30	Phenanthrene	0.059	5.6
Chrysene	0.059	3.4	Phenol	0.039	6.2
o-Cresol	0.11	5.6	o-Phenylenediamine	0.056	5.6
Cresol (m-or p-isomers)	0.77	5.6	Phorate	0.021	4.6
m-Cumenyl methylcarbamate	0.056	1.4	Phthalic acid	0.055	28
Cyclohexanone	0.36	0.75*	Phthalic anhydride	0.055	28
o,p'-DDD	0.023	0.087	Physostigmine	0.056	1.4
p,p'-DDD	0.023	0.087	Physostigmine salicylate	0.056	1.4
o,p'-DDE	0.031	0.087	Promecarb	0.056	1.4
p,p'-DDE	0.031	0.087	Pronamide	0.093	1.4
o,p'-DDT	0.0039	0.087	Propam	0.056	1.4
p,p'-DDT	0.0039	0.087	Propoxur	0.056	1.4
Dibenz(a,h)anthracene	0.055	8.2	Prosulfocarb	0.042	1.4
Dibenz(a,e)pyrene	0.061	N/A	Pyrene	0.067	8.2
1,2-Dibromo-3-chloropropane	0.11	15	Pyridine	0.014	16
1,2-Dibromomethane (Ethylene dibromide)	0.028	15	Safrole	0.081	22
Dibromomethane	0.11	15	Silvex (2,4,5-TP)	0.72	7.9
m-Dichlorobenzene	0.036	6	1,2,4,5-Tetrachlorobenzene	0.055	14
o-Dichlorobenzene	0.088	6	TCDDs (All Tetrachlorodibenzo-p-dioxins)	0.000063	0.001
p-Dichlorobenzene	0.09	6	TCDFs (All Tetrachlorodibenzofurans)	0.000063	0.001
Dichlorodifluoromethane	0.23	7.2	1,1,1,2-Tetrachloroethane	0.057	6
1,1-Dichlorethane	0.059	6	1,1,2,2-Tetrachloroethane	0.057	6
1,2-Dichloroethane	0.21	6	Tetrachloroethylene	0.056	6
1,1-Dichloroethylene	0.025	6	2,3,4,6-Tetrachlorophenol	0.03	7.4
Trans-1,2-Dichloroethylene	0.054	30	Thiodicarb	0.019	1.4
2,4-Dichlorophenol	0.044	14	Thiophanate-methyl	0.056	1.4
2,6-Dichlorophenol	0.044	14	Tirpate	0.056	0.28
2,4-Dichlorophenoxyacetic acid (2,4-D)	0.72	10	Toluene	0.08	10
1,2-Dichloropropane	0.85	18	Toxaphene	0.0095	26
Cis-1,3-Dichloropropylene	0.036	18	Triallate	0.042	1.4
Trans-1,3-Dichloropropylene	0.036	18	Tribromomethane (Bromoform)	0.63	15

Dieldrin	0.017	0.13		1,2,4-Trichlorobenzene	0.055	19
Diethyl phthalate	0.2	28		1,1,1-Trichloroethane	0.054	6
Diethylene glycol, dicarbamate	0.056	1.4		1,1,2-Trichloroethane	0.054	6
p-Dimethylaminoazobenzene	0.13	N/A		Trichloroethylene	0.054	6
2,4-Dimethyl phenol	0.036	14		Trichloromonofluoromethane	0.02	30
Dimethyl phthalate	0.047	28		2,4,5-Trichlorophenol	0.18	7.4
Dimetilan	0.056	1.4		2,4,6-Trichlorophenol	0.035	7.4
Di-n-butyl phthalate	0.057	28		2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)	0.72	7.9
1,4-Dinitrobenzene	0.32	2.3		1,2,3-Trichloropropane	0.85	30
4,6-Dinitro-o-cresol	0.28	160		1,1,2-Trichloro-1,2,2-trifluoroethane	0.057	30
2,4-Dinitrophenol	0.12	160		Triethylamine	0.081	1.5
2,4-Dinitrotoluene	0.32	140		Tris-(2,3-Dibromopropyl)phosphate	0.11	0.1
2,6-Dinitrotoluene	0.55	28		Vernolate	0.042	1.4
Di-n-octyl phthalate	0.017	28		Vinyl chloride	0.27	6
Di-n-propylnitrosamine	0.4	14		Xylene(s)	0.32	30
1,4-Dioxane	12	170		Cyanides (total)	1.2	590
Diphenylamine	0.92	13		Cyanides (Amenable)	0.86	30
Diphenylnitrosamine	0.92	13		Fluoride**	35	N/A
1,2-Diphenylhydrazine	0.087	N/A		Sulfide	14	N/A
Disulfoton	0.017	6.2		Antimony	1.9	1.15*
Dithiocarbamates (total)	0.028	28		Arsenic	1.4	5.0*
Endosulfan I	0.023	0.066		Barium	1.2	21*
Endosulfan II	0.029	0.13		Beryllium	0.82	1.22*
Endosulfansulfate	0.029	0.13		Cadmium	0.69	0.11*
Endrin	0.0028	0.13		Chromium (Total)	2.77	0.6*
Endrin aldehyde	0.025	0.13		Lead	0.69	0.75*
EPTC	0.042	1.4		Mercury (Non wastewater from Retort)	N/A	0.2*
Ethyl acetate	0.34	33		Mercury (All others)	0.15	0.025*
Ethyl benzene	0.057	10		Nickel	3.98	11*
Ethyl cyanide (Propanenitrile)	0.24	360		Selenium	0.82	5.7*
Ethyl ether	0.12	160		Silver	0.43	0.14*
Ethyl methacrylate	0.14	160		Thallium	1.4	0.2*
Ethylene oxide	0.12	N/A		Vanadium**	4.3	1.6*
Bis(2-Ethylhexyl) phthalate	0.28	28		Zinc**	2.61	4.3*
Famphur	0.017	15				
Fluoranthene	0.068	3.4		SIGNATURE:		
Fluorene	0.059	3.4				
Formetanate hydrochloride	0.056	1.4		DATE:		

*TCLP ** Not in UHC in Characteristic Wastes 268.2(i)

6.2 AET LDR Requirements

AET will not land dispose of hazardous waste or non-hazardous waste on-site. However, because off-site management of treatment residues and other hazardous wastes generated from AET's management of hazardous waste may include land disposal or be used in products which may be placed upon the land, LDR's are applicable to the treatment residues and other hazardous wastes generated by AET for both the regulated constituents identified in 40 CFR 268.40 and the underlying hazardous constituents found at 40 CFR 268.48.

All hazardous waste received by AET will exhibit, at a minimum, the hazardous waste characteristic of explosive reactivity. Therefore, all hazardous waste received by AET will require treatment to meet the LDR of "DEACT" or "CMBST," as required, for explosive reactivity. AET intends to assure the equivalency of its "DEACT" process to remove the hazardous characteristic of ignitability, and/or reactivity. Any questionable wastes will be reviewed against the required "CMBST" process in accordance with 40 CFR 268.42(b). Until such time as AET receives approval for the equivalency of its "DEACT" process to "CMBST", AET will not accept or treat the wastes in Table 1 that does not have a listed flash point, explosive point or is listed as decomposing, of which AET can not exceed with bucket temperatures. The hazardous waste received by AET may also be listed in 40 CFR Part 261, Appendix VII (including mixtures) and/or exhibit one or more of the other characteristics of hazardous waste in 40 CFR Part 261, Subpart C. The waste codes attached to the hazardous waste are significant to compliance with the LDR requirements.

The majority of the waste generated by AET from the management of hazardous waste will be spent carbon, ash, scrap metal, and packaging materials. AET intends to return the spent carbon to the vendor for regeneration. AET intends to dispose of the ash off-site. AET intends to recycle scrap metal recovered from the treatment of commercial chemical products through a smelter. AET intends to return empty packaging (containers) for energetic materials to the generator for reuse. AET intends to recycle cardboard packaging material which has had no contact with energetics. If AET determines to dispose of spent carbon, scrap metal, and/or packaging materials AET will make a hazardous waste determination and send the spent carbon, scrap metal, and/or packaging materials off-site to a hazardous or non-hazardous waste management facility as appropriate. AET will make a hazardous waste determination in accordance with Section 3.1 of the WAP. Records of such waste analysis will be kept as described in Section 3.3 of the WAP.

AET will determine if the reactivity characteristic has been removed in accordance with Section 3.1 of the WAP. If AET will determine the concentration of underlying hazardous constituents in order to determine compliance with the UTS, AET will do so in accordance with Section 3.1 of the WAP. Records of such waste analysis will be kept as described in Section 3.3 of the WAP.

6.2.1 Characteristic Wastes

The procedures in this section will be used by AET until such time as AET manages certain listed hazardous wastes that are listed on the basis of a hazard other than or in addition to ignitability and/or reactivity. Once AET manages listed hazardous waste, that are listed on the basis of a hazard, other than or in addition to ignitability and/or reactivity, the procedures below of "Listed Wastes" will be used. (see Table 4 for those listed wastes for which this section does not apply)

All the wastes accepted by AET for treatment will exhibit the hazardous waste characteristic of explosive reactivity and will be treated to remove this characteristic. However, this treatment process alone may not satisfy all the LDR requirements. AET must determine whether or not the wastes generated by the treatment process meet the LDR treatment standards before they are further managed including off-site management. The following summarizes the steps required.

- Determine if waste exhibits a hazardous waste characteristic in accordance with Section 6 of the WAP
- Determine if the underlying hazardous constituents are above their respective universal treatment standards (UTS) in 40 CFR 268.48 in accordance with Section 6 of the WAP.
- Note that AET may determine not to determine if underlying hazardous constituents are above their respective UTS and further manage the waste at an off-site TSD. AET will provide the hazardous waste management facility the generator notice described above for each different waste sent to each different hazardous waste management facility.
- If the waste exhibits no hazardous waste characteristics and underlying hazardous constituents are below the UTS, the waste will be disposed at an off-site non-hazardous waste management facility. AET will submit to EPA the notice and certification required by 40 CFR 268.9(d) and retain records of the same in the facility operating record for each different type waste sent to each different non-hazardous waste management

facility. AET will obtain and retain the waste analysis data required by 40 CFR 268.8(b)(1-2) in the facility operating record.

- If the waste is being shipped off-site for disposal at a subtitle C hazardous waste facility because it is a listed waste or a mixture including a listed waste and the waste meets the required LDR treatment standards including those required for underlying hazardous constituents in 40 CFR 268.48, AET will provide a one time notice 268.7(b)(3) and certification in 40 CFR 268.7(b)(4). AET will obtain and retain the waste analysis data required by 40 CFR 268.8(b)(1-2) in the facility operating record.
- If the waste exhibits no hazardous waste characteristics and underlying hazardous constituents are not below the UTS, the waste will be disposed at an off-site hazardous waste management facility. AET will provide the hazardous waste management facility the generator notice described above for each different waste sent to each different hazardous waste management facility.

6.2.2 Listed Wastes

This section summarizes the procedures AET will use if the hazardous wastes in Table 4 are managed at the facility. In accordance with 40 CFR 261.3, residues from the treatment of listed hazardous waste are listed hazardous waste having the EPA waste codes from the original waste that was treated and all previous listed wastes that were treated. Note again that this only applies to the wastes in Table 4.

All the wastes accepted by AET for treatment will exhibit the hazardous waste characteristic of explosive reactivity and will be treated to remove this characteristic. However, this treatment process alone may not satisfy all the LDR requirements. AET must determine whether or not the wastes generated by the treatment process meet the LDR treatment standards before they are further managed including off-site management. The following summarizes the steps required.

- Determine if waste exhibits a hazardous waste characteristic in accordance with Section 3 of the WAP
- Determine if the underlying hazardous constituents are above their respective universal treatment standards (UTS) in 40 CFR 268.48 in accordance with Section 6 of the WAP.
- If the waste meets the required LDR treatment standards including those required for underlying hazardous constituents in 40 CFR 268.48, AET will provide a one time notice 268.7(b)(3) and certification in 40 CFR 268.7(b)(4). AET will obtain and retain the waste analysis data required by 40 CFR 268.8(b)(1-2) in the facility operating record.
- If the waste meets the required LDR treatment standard for explosive reactivity but does not meet the UTS required for underlying hazardous constituents in 40 CFR 268.48, AET will provide a one time notice 268.7(b)(3) and certification in 40 CFR 268.7(b)(4) for each waste sent to each off-site TSD.
- AET may not determine if underlying hazardous constituents are above their respective UTS. In this case, AET will provide the hazardous waste management facility the generator notice described above for each different type waste sent to each different hazardous waste management facility.

7 COMPLIANCE WITH FEED RATE LIMITS

AET's hazardous waste permit includes emission rate limits and feed rate limits based upon emissions testing conducted to date at the facility. Therefore, hazardous wastes must be carefully evaluated by AET to ensure compliance with the permit.

The hazardous constituents in RCRA Permit Table 3, Emission Rate Limits, have feed rate limits established in the RCRA Permit Table 4, and their concentrations must be quantitatively established in the materials treated by AET in order to document compliance with the feed rate and emission rate limits shown in the RCRA permit. If the concentration of hazardous constituents in wastes to be treated by AET cannot be established from the pre-qualification, AET will collect a representative sample and obtain analysis from an off-site laboratory documenting the concentration of those constituents in RCRA Permit Table 3 known to be present. No waste shall be treated before the concentration of hazardous constituents in RCRA permit Table 3 known to be present is adequately documented and hazardous waste feed rates are established as shown in RCRA Permit Table 4.

7.1 Constituent Concentrations Determined From Specifications

AET will treat wastes which are military munitions, military munition components, bulk military explosives, bulk military propellants or commercial chemical products manufactured to certain quality and chemical specifications. Laboratory chemical analysis of these wastes will not be conducted. AET will review the manufacturer's specifications to determine the chemical concentrations of the constituents in RCRA Permit Table 3. The composition and constituent feed rates will be documented using a spreadsheet as exemplified in WAP-3. AET will prepare a spreadsheet for each of the wastes to be treated and retain a copy of each spreadsheet in the Facility Operating Record. AET will also retain a copy of the manufacturer's specifications used to conduct this analysis with the spreadsheet in the Facility Operating Record.

AET may feed wastes into the treatment unit either singly or in combination. To document compliance with the waste and constituent feed rate limits, AET will prepare a "recipe" that provides the feed rate of each waste to be fed into the treatment unit during the treatment campaign. The recipe will also document the constituent concentration of each waste and show that the feed rate of all chemical constituents will be below the feed rate limits in the permit. AET will prepare a spreadsheet for each waste treatment campaign and retain a copy of each spreadsheet in the Facility Operating Record. AET will use a spreadsheet to document the actual amount of wastes feed during each treatment campaign.

Figure WAP-3 : Typical Spreadsheet Showing Composition and Constituent Feed Rates

COMPOUND	Composition per item or per pound	Lbs/Hr or each items per hour feed	Maximum Annual Feed Rate (lbs/Yr)	Annual Ave. Emission Limit (g/s)	Total amount fed (lbs)	Total fed divided by total feed time
Acenaphthene				5.2400E-07		
Acetone				1.6100E-05		
Acetophenone				1.9000E-06		
Acrylonitrile				9.2700E-06		
Aniline				4.5900E-06		
Anthracene				2.1300E-06		
Antimony			294709	2.7370E-03		
Arsenic			899	8.3580E-06		
Barium			107962	4.8000E-05		
Benzene				1.4200E-04		
Benzo(a)anthracene				1.8800E-07		
Benzo(a)pyrene				1.9800E-07		
Benzo(b)fluoranthene				3.7400E-07		

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Benzo(k)fluoranthene				4.3800E-07		
Benzoic acid				8.4000E-06		
Benzyl alcohol				6.4600E-06		
Beryllium			2	2.1100E-08		
Bis(2-chlorethyl)ether				1.7900E-07		
Bromodichloromethane				3.0000E-08		
Bromoform				1.2400E-07		
Butylbenzylphthalate				2.3500E-07		
Cadmium			20938	1.9446E-04		
Carbon disulfide				2.2500E-07		
Carbon tetrachloride				1.9200E-06		
Chlorine			15264	1.1776E-02		
Chloro-3-methylphenol, 4				3.7600E-07		
Chloroaniline, p-				9.3100E-07		
Chlorobenzene				1.1900E-06		
Chloroethane				3.0500E-07		
Chloroform				3.9400E-08		
Chloronaphthalene, 2-				1.4000E-07		
Chlorophenol, 2-				1.9300E-07		
Chlorophenyl-phenylether, 4-				2.0200E-07		
Chromium, hexavalent				1.4585E-05		
Chromium			1570			
Chrysene				1.8500E-07		
Cyclotrimethylenetrinitramine			43479*			
Di-n-butyl phthalate			604246	9.2200E-07		
Di-n-octyl phthalate			22922	3.3000E-04		
Dibenz(a,h)anthracene				3.3800E-07		
Dichlorobenzene, 1,2-				1.3700E-07		
Dichlorobenzene, 1,2-				2.1100E-07		
Dichlorobenzene, 1,4-				2.1900E-07		
Dichlorobenzidine, 3,3'-				1.2000E-06		
Dichlorodifluoromethane				5.3700E-06		
Dichloroethane, 1,1-				3.5600E-08		
Dichloroethane, 1,2-				4.1200E-08		
Dichloroethylene, cis-1,2-				4.6800E-08		
Dichloroethylene, trans-1,2-				3.1800E-08		
Dichlorophenol, 2,4-				2.6400E-07		
Dichloropropane, 1,2-				5.0600E-08		
Dichloropropene, cis-1,3-				5.6200E-08		
Diethyl phthalate				2.9300E-07		
Dimethyl phthalate				3.5300E-07		
Dimethylphenol, 2,4-				8.9400E-07		
Dinitrophenol, 2,4-				2.6800E-06		
Dinitrotoluene, 2,4-			985815	1.6332E-03		
Dinitrotoluene, 2,6-			905392	1.6332E-03		
Ethylbenzene				1.5000E-03		
Ethylhexyl phthalate, bis-2-				1.0500E-06		
Fluoranthene				4.6700E-06		
Fluorene				8.2200E-07		
HeptaCDD, 1,2,3,4,6,7,8-				5.0000E-12		
HeptaCDF, 1,2,3,4,6,7,8-				5.9100E-12		
HeptaCDF, 1,2,3,4,7,8,9-				1.1000E-12		
HexaCDD, 1,2,3,4,7,8-				6.9900E-13		
HexaCDD, 1,2,3,6,7,8-				1.1300E-12		
HexaCDD, 1,2,3,7,8,9-				7.7500E-13		
HexaCDF, 1,2,3,4,7,8-				3.6000E-12		
HexaCDF, 1,2,3,6,7,8-				3.9700E-12		
HexaCDF, 1,2,3,7,8,9-				1.0700E-12		
HexaCDF, 2,3,4,6,7,8-				3.4600E-12		
Hexachloro-1,3-butadiene				2.6200E-07		
Hexachlorobenzene				2.4300E-06		
Hexachlorocyclopentadiene				2.0500E-06		
Hexachloroethane				3.4500E-07		
Hydrogen chloride				3.0412E-01		
Indeno(1,2,3-cd) pyrene				3.1900E-07		
Isophorone				1.6800E-07		
Lead			1595458	2.9400E-03		
Mercuric chloride				5.9700E-10		
Mercury			0	2.4900E-12		
Methyl ethyl ketone				6.5500E-07		
Methylene chloride				3.1900E-04		
Naphthalene				2.3700E-05		
Nitroaniline, 2-				2.5700E-07		
Nitroaniline, 3-				6.9400E-07		

Nitroaniline, 4-					5.2900E-07		
Notrobenzene					2.1200E-06		
Nitrophenol, 2-					7.5300E-06		
Nitrophenol, 4-					7.3900E-07		
Nitroso-di-n-butylamine, n-					2.5600E-07		
Nitrosodiphenylamine, N-					2.9300E-07		
Nitrosodipropylamine, n-					1.9300E-07		
OctaCDD, 1,2,3,4,6,7,8,9-					1.0300E-11		
OctaCDF, 1,2,3,4,6,7,8,9-					2.2800E-12		
PentaCDD, 1,2,3,7,8-					9.6600E-13		
PentaCDF, 1,2,3,7,8-					3.6600E-12		
PentaCDF, 2,3,4,7,8-					6.3900E-12		
Pentachlorobenzene					1.7300E-07		
Pentachloronitrobenzene					2.0600E-07		
Pentachlorophenol					4.6800E-06		
Phenanthrene					4.4200E-06		
Phenol					4.4300E-06		
Pyrene					2.0000E-07		
Silver				17	1.6110E-07		
Styrene					3.1800E-07		
TetraCDD, 2,3,7,8-					4.2100E-13		
TetraCDF, 2,3,7,8-					3.9100E-12		
Tetrachlorobenzene, 1,2,4,5-					2.0000E-07		
Tetrachloroethane, 1,1,2,2-					2.0600E-06		
Tetrachlorophenol, 2,3,4,6-					2.7800E-07		
Thallium				17346	1.6110E-04		
Toluene					4.5400E-05		
Trichlorobenzene, 1,2,4-					1.9500E-07		
Trichloroethane, 1,1,1-					3.0000E-08		
Trichloroethane, 1,1,2-					9.3600E-08		
Trichlorofluoromethane					2.5100E-07		
Trichlorophenol, 2,4,5-					4.0300E-07		
Trichlorophenol, 2,4,6-					2.8400E-07		
Trichloropropane, 1,2,3-					1.5200E-07		
Trinitrotoluene, 2,4,6-				43479*	6.2595E-04		
Vinyl chloride					1.2300E-07		
Xylene, p-					2.3200E-08		

*For calculations of the annual feed rate limit, 2,4,6-Trinitrotoluene and Cyclotrimethylenenitramine are combined together

7.2 Constituent Concentrations Determined From Specifications and Generator Analysis

AET will treat wastes which are off-specification military munitions, military munition components, bulk military explosives, bulk military propellants or commercial chemical products manufactured to certain quality and chemical specifications. Laboratory chemical analysis of these wastes will not be conducted if the generator determined these wastes were off-specification from process knowledge or quality testing. AET will obtain the generator's data showing the determination of off-specification and the manufacturer's specifications to determine the chemical concentrations of the constituents in RCRA Permit Table 3. The composition and constituent feed rates will be documented using a spreadsheet as exemplified in Figure WAP-3. AET will prepare a spreadsheet for each of the wastes to be treated and retain a copy of each spreadsheet in the Facility Operating Record. AET will also retain a copy of the manufacturer's specifications used to conduct this analysis with the spreadsheet in the Facility Operating Record.

AET may feed wastes into the treatment unit either singly or in combination. To document compliance with the waste and constituent feed rate limits, AET will prepare a "recipe" that provides the feed rate of each waste to be fed into the treatment unit during the treatment campaign. The recipe will also document the constituent concentration of each waste and show that the feed rate of all chemical constituents will be below the feed rate limits in the permit. AET will prepare a spreadsheet for each waste treatment campaign and retain a copy of each

spreadsheet in the Facility Operating Record. AET will also use this spreadsheet to document the actual amount of wastes feed during each treatment campaign.

7.3 *Constituent Concentrations Determined From Laboratory Analysis*

AET will treat wastes which are wastes or residues from manufacturing, wastes or residues from the cleanup of spills or other non-specified wastes. Manufacturer's specifications cannot be used to determine the constituent concentrations of such wastes. Chemical analysis will be obtained of representative samples of such wastes each time a shipment is received by AET. AET will determine the chemical constituent concentrations using laboratory chemical analysis using the methods in Table 3. The composition and constituent feed rates will be documented using the spreadsheet as exemplified in Figure WAP-3. AET will prepare a spreadsheet for each of the wastes to be treated and retain a copy of each spreadsheet in the Facility Operating Record. AET will also retain a copy of the manufacturer's specifications used to conduct this analysis with the spreadsheet in the Facility Operating Record.

AET may feed wastes into the treatment unit either singly or in combination. To document compliance with the waste and constituent feed rate limits, AET will prepare a "recipe" that provides the feed rate of each waste to be fed into the treatment unit during the treatment campaign. The recipe will also document the constituent concentration of each waste and show that the feed rate of all chemical constituents will be below the feed rate limits in the permit. AET will prepare a spreadsheet for each waste treatment campaign and retain a copy of each spreadsheet in the Facility Operating Record. AET will also use this spreadsheet to document the actual amount of wastes feed during each treatment campaign.

8 QUALITY ASSURANCE

For a waste to be safely treated, the waste's chemical and physical properties must be consistent with the facility's waste acceptance criteria and must comply with the feed rate limits in the permit. For any treatment residues generated, the residues' chemical and physical properties must be known. To realize the facility's goal of safe and effective waste treatment, the following procedures will be followed:

- Appropriate methods will be used to collect representative waste samples.
- Sampling and testing equipment will be maintained in good operating order.
- Sample collection and analysis methods will be documented.
- Appropriate, accurate and representative waste analysis data will be obtained.
- Sample collection, analysis and custody will be documented.

8.1 *Quality Objectives and Criteria*

The objective of sample collection is to assure representative samples are collected. The objective of sample analysis is to assure proper methods used and data collected is valid. Performance and acceptance criteria of data quality are precision, bias, accuracy, representativeness, comparability, and sensitivity.

AET will maximize the precision of sample analysis by using consistent sample collection and preservation. AET will maximize precision of analytical data generated on-site by the using the same analytical instrument to make repeated analysis on the same sample. Data generated by off-site laboratory analysis will include determinations of precision by using the same method to make repeated measurements of the same sample within a single laboratory or have two or more laboratories analyze identical samples with the same method. AET will also evaluate precision by splitting a sample in the field and submitting both for sample handling, preservation and storage, and analytical measurements.

Typical, criteria for acceptance/rejection is:

- Metals – 15% variation
- VOC's – 20% variation
- SVOC's – 20% variation
- Explosives – 15% variation

AET will determine bias by testing reference materials with on-site instrumentation. Data generated by off-site laboratory analysis will include determinations of bias by analyzing reference materials and analyzing spiked matrix samples. Typically, this will be within 3 standard deviations of the mean

AET will determine accuracy by testing reference materials with on-site instrumentation. Data generated by off-site laboratory analysis will include determinations of accuracy by analyzing a reference material or reanalyzing a sample to which a material of known concentration or amount of pollutant or labeled chemical constituent has been added; usually expressed either as percent recovery or a percent bias. Typically, this will be in the plus or minus 10% of known value for acceptance or rejection.

AET will collect representative samples for analysis and use appropriate preservation for samples collected. AET will use appropriate sample collection techniques in accordance with the specific laboratory utilized for analysis quality procedure requirements. Typically, data not meeting preservation requirements will be rejected.

Comparability can be achieved by comparing sample collection and handling methods, sample preparation and analytical procedures, holding times, stability issues, and QA protocols. AET will continually evaluate the comparability of the data collected. Typically, data not meeting these QA protocols will be rejected or used as reference only.

Sensitivity is the determination of the minimum concentration or attribute that can be measured by a method (method detection limit), by an instrument (instrument detection limit), or by a laboratory (quantitation limit). AET will obtain data with detection limits and quantitation (minimum detection limits - MDLs) limits below the levels necessary to make proper waste acceptance and feed rate limits. These will vary by compound tested but will typically be <1ppm.

8.2 Sampling Methods

Whenever AET collects a waste sample for analysis, appropriate sampling methods will be used in order to obtain a representative sample. Depending on the physical characteristics of the waste and the homogeneity or heterogeneity of the waste one of the following waste sampling procedures can be used to aid in sampling protocol:

Attachment 1 - ASTM Standard D1452 – Standard Practice for Soil investigation and sampling by augur borings

Attachment 2 - ASTM Standard D2234 – Standard Practice for Collection of a gross sample for coal

8.3 Sample Handling and Custody

All samples taken for chemical analysis will be placed in clean containers so that no external or cross contamination of samples occurs. Containers will be labeled with the following information:

- Date of sample collection
- Identification of sample media
- Sample number

Samples will be preserved as required by the analytical methods to be employed to determine the chemical constituent concentrations of the waste.

All samples will have chain-of-custody records documenting all persons handling the samples.

8.4 Analytical Methods

Table 5 : Test methods for Various Compounds

Waste Code	Waste Material	Hazardous Constituent	Test Method
D001	Ignitable waste	None	1011
D003	Reactive waste	Explosives	8330
D005	Barium Containing Waste	Barium	6010
D006	Cadmium Containing Waste	Cadmium	6010
D007	Chromium Containing Waste	Chromium	6010
D008	Lead Containing Waste	Lead	6010
D010	Selenium Containing Waste	Selenium	6010
D011	Silver Containing Waste	Silver	6010
D030	2,4-Dinitrotoluene Containing Waste	2,4-Dinitrotoluene	8090, 8250
D033	Hexachlorobutadiene Containing Waste	Hexachlorobutadiene	8120, 8250
D035	Methyl Ethyl Ketone Containing Waste	Methyl Ethyl Ketone	8015, 8240
D036	Nitrobenzene Containing Waste	Nitrobenzene	8090, 8250
K044	Wastewater treatment sludges from manufacturing and processing of explosives	2,4-Dinitrotoluene explosives	8090, 8250, 8330
K045	Spent carbon from the treatment of wastewater containing explosives	2,4-Dinitrotoluene explosives	8090, 8250, 8330
K046	Wastewater treatment sludges from the manufacture, formulation, and loading of lead-based initiating compounds	Lead	6010
K047	Pink/red water from TNT operations	Trinitrotoluene, 2,4-Dinitrotoluene explosives	8090, 8250
P009	Ammonium picrate	Ammonium picrate	8250
P068	Methyl hydrazine	Methyl hydrazine	8250
P081	Nitroglycerine	Nitroglycerine	8090, 8250
P105	Sodium azide	None	8090, 8250
P112	Tetranitromethane	Tetranitromethane	8250
U105	2,4-Dinitrotoluene	Dinitrotoluene(s)	8090, 8250
U106	2,6-Dinitrotoluene	Dinitrotoluene(s)	8090, 8250
U133	Hydrazine	Hydrazine	8250

U186	N,N-Diethylhydrazine	Diethylhydrazine	8250
U098	1,1-Dimethylhydrazine	Dimethylhydrazine	8250
U099	1,2- Dimethylhydrazine	Dimethylhydrazine	8250
U109	1,2-Diphenylhydrazine	Diphenylhydrazine	8250

8.5 Quality Control

Sample containers will be clean and free from contamination. Field blanks will be taken when sampling for VOCs. When necessary to document effectiveness of decontamination, all sampling equipment will be decontaminated between and after sampling and samples collected to document the effectiveness of the decontamination. Disposable sampling equipment may be used and disposed after its use. Pre-clean certificates will be obtained to document the cleanliness of disposable sampling equipment or AET will collect samples of the disposable sampling equipment to document its cleanliness. AET may decide to provide the laboratory with a spike sample. All analytical laboratory data will be reviewed to assure surrogate recovery is within control limits set by the laboratory's quality control plan. All laboratory analytical data will be reviewed to assure correct methods were used for the analysis.

8.6 Instrument and Equipment Testing, Inspection, Maintenance and Calibration

Commercial laboratories will be used for chemical analysis. Only those laboratories having a written and documented QA/QC program will be used. AET intends to use only those laboratories having EPA, DOD, or state certifications for relevant analyses. AET personnel will review all laboratories used to assure that they meet QA/QC standards. AET will obtain documentation of the laboratory's QA/QC program and certifications and include such documentation in the Facility Operating Record.

AET will develop and follow Standard Operating Procedures for the use of AET analytical instruments and field instruments. Operation of AET analytical instruments and field instruments will be operated by properly trained personnel. Analytical instruments and field instruments maintained at the AET facility will be inspected in accordance with the manufacturer's recommendations. Each instrument's standardization and calibration interval will be determined by reviewing the type and number of analyses performed, the recommendations of the instrument's manufacturer, the requirements of the EPA-approved analytical method, and the experience of the personnel performing the analysis. Records documenting maintenance checks, calibration and standardization will be maintained as a part of the Facility Operating Log. Instruments that cannot be calibrated or standardized that have become inoperable during use or require maintenance will be promptly removed from service and tagged to denote the fact that the instrument is out of service.

8.7 Data Management

The information identified in 40 CFR §264.73(a) and (b), and described below, will be maintained in the facility operating records per any prescribed timeframes. All documentation required by this Waste Analysis Plan will be included in the Facility Operating Record. All information collected to provide waste characterization including, but not limited to, all waste sampling, waste analysis, waste inspection, and quality assurance and quality control information, will be made part of the operating record.

8.8 *Data Review, Validation and Usability*

The criteria in section 8.1 will be used when deciding to accept, reject, or qualify project information to be obtained. These criteria will assure quality objectives have been achieved. Laboratory data will be reviewed to assure standard quality control procedures were applied to the data. The following equations and procedures will be used to review the data:

AET will use a 90% confidence level when comparing split samples to each other, duplicate samples to each other, or spiked samples. AET may send duplicate samples to two different laboratories for comparison and will use an 85% confidence level to accept sample results. Data outside these levels will be considered questionable.

Figure WAP- 4 TYPICAL WASTE PROFILE FORM

Facility Waste Number _____ Sample Number _____

1. GENERATOR

1-1. Name: _____

1-2. Address: _____

1-3. EPA I.D. Number: _____

2. WASTE IDENTIFICATION

2-1. EPA Waste Code: _____

2-2. DOT Waste Number: _____

2-3. Waste Name: _____

2-4. Commercial Product Description: _____

2-5. General Product Description: _____

3. SAMPLE COLLECTION

3-1. Sampling method: _____

3-2. Sample Collection Date: _____

3-3. Name of Sampler and Employer: _____

3-4. Was sample collected during normal process operations?
Yes _____ No _____
If No, explain: _____

4. Physical state at Standard Temperature and Pressure
Solid _____ Sludge _____ Liquid _____

5. Specific Gravity _____

6. Ignitable: Yes _____ No _____ Test Method: 1010,1020
Flash Point: _____ °F

7. Corrosive: Yes _____ No _____ Test Method: 1110, 9040, 9041

8. Percent Ash Content: _____ % Test Method: _____

9. Viscosity (Centipoise): _____ Test Method: _____

10. Water Content: _____ % Test Method: 9095

11. Heating Value (BTU/LB): _____ Test Method: _____

12. Total Organic Carbon (ppm) _____ Test Method: _____

13. Total Halogen Content _____ Test Method: 9020

14. Reactive: Yes _____ No _____ Test Method: _____
Results Description: _____

15. Appendix VIII Constituents: List each Appendix VIII constituent in percent by weight found in the waste. Use additional pages if necessary.

16. Metal Components by weight of the waste.

Nomenclature	Test Method	%

17. PEP Weight _____ %
(Pyrotechnic, Explosives and Propellants by weight present)

Chemical Components	Weight Percent
_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %

FIGURE WAP- 4 (Continued)

	_____	_____	%
	_____	_____	%
	_____	_____	%
	_____	_____	%
	TOTAL	_____	%
18.	Other components making up waste listed by weight percent, such as plastic parts, cases, etc.		
	COMPONENTS	WEIGHT PERCENT	
	_____	_____	%
	_____	_____	%
	_____	_____	%
	_____	_____	%
	TOTAL	_____	%
19.	Net Explosive Weight: _____		
20.	Trace Metal Components (if not included in 16 above).		
	As _____ ppm	Pb _____	ppm
	Cd _____ ppm	Hg _____	ppm
	Cr _____ ppm	Ag _____	ppm
	Be _____ ppm	Ti _____	ppm
	Sb _____ ppm	Se _____	ppm
	Ba _____ ppm	Ds _____	ppm
		Ni _____	ppm
21.	MANUFACTURED ITEMS		
	Attach a diagram of the waste items, label each component and provide a list of components of each item.		

I certify the accuracy of the data provided on this Waste Characterization Form and the representations of the waste sample.

Name: _____
Print or Type

TITLE: _____
SIGNATURE: _____

Figure WAP- 5 TYPICAL ANALYSIS REQUEST FORM

Generator's Name: _____ Sample Number: _____

Generator's Address: _____ Waste Characterization: _____

Form Number: _____

Waste Name: _____

Physical State: _____

Date Sample Collected: ____ / ____ / ____ Time Sample Collected: _____

Date Sample Received : ____ / ____ / ____ Time Sample Received : _____

Analysis Requested: _____ Results/Units: _____

Results Reported by: _____

Comments: _____

Figure WAP- 6 Typical Chain-of-Custody Form

[illegible]